



Global Forum for Environmental Education

Volume 9, Number 2, June 1999



Caretakers observing a vanishing lake in Ireland at the 12th CEI-Conference.

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Colophon

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Frontpage

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Editors in chief:

Frits Gravenberch & Arjen Wals, The Netherlands

Editorial Board:

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CEI Secretary: Joke Wals, The Netherlands

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CEI headquarters:

v/d Valk Boumanweg 180y, 2352 JD Leiderdorp
The Netherlands. Phone/fax: + 31 71 5890168
e-mail: OREMA.WALS@PI.NET

CEI homepage:

<http://www.boker.org.il/eng/caretakers>

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Notes for contributors

First of all, we welcome contributions, whether it is an article, a poem or a report or anything else suitable for Global Forum.

Text

Text should be in WORD format for windows or else without format (DOS file or ASCII file). An article can have a maximum length of 750 words. Footnotes should be avoided. Please accompany each article by a short summary and an address for further information. If you are unable to use a computer, we still welcome your contributions!

Tables, figures and illustrations

Do not include tables, figures and illustrations as part of the text. Gather them together in a separate file or on paper. In the text you can point out the approximate position of tables, figures and illustrations. We would also like to receive captions to the illustrations you send us. We always welcome pictures and photographs!

Deadlines

Global Forum appears twice a year in June and in December. Contributions for the June issue have to be received before May the 1st. Contributions for the December issue before October the 1st.

Please send your contributions to:

SLO, c/o Frits Gravenberch
PO Box 2041, 7500 CA Enschede
The Netherlands
fax: (+)31 53 4840620
e-mail: F.Gravenberch@slo.nl

1999 CEI conference address:

Jose Miguel Molina - CEI/COSTA RICA
PO Box 1000-1000 Costa Rica
Tel.: +506-2335018/Fax.: +506-2554527
E-mail: jmolina@vida.org home page: <http://www.reli.org/cei99>

Editorial

One of the summarizing lines in the article 'Environmental Laws' of Muhammad Majid Bashir that is included in this issue of Global Forum reads: 'Environment progress is the need of the day but in the quest of economic development one has adopted measures which prevents hazard to life, destruction of the environment and pollution of the atmosphere'. The article stresses the need for environmental care taking by every one and each of us and the need for an integrated approach to environmental decision making.

Teachers however, have an additional problem. While on the one hand the conceptual understanding by the science experts of the back-grounds of environmental issues is becoming more and more elaborate, secondary school teachers in High School still have to find by themselves mainly ways to bring concepts such as Sustainable Development, Biodiversity and Conflict between Ecology and Economy to the understanding of their students,. This underlines the importance of teachers getting together in order to share ideas, expertise and confidence amongst themselves to turn environmental education into a real and exciting part of students' every-day's

school life. The articles by Ezra Pimentel: 'Biodiversity as educational resource' and Costa Rica, the good example' by Hjalmar Norden are very illustrative in this respect.

The conferences of teachers who together constitute the Caretakers of the Environment are indeed a great help to achieve the starting of and continuation of co-operation amongst teachers on an international scale. While most of you will already be in the state of enjoying all the goodies of the 1999 meeting in Costa Rica the preparations of the next meeting which will be in Sweden are already in good progress. This issue of Global Forum contains two articles: 'Global Environmental Youth Convention Year 2000' (1) and (2) in which Birgitta Norden of Tunaskolan and colleagues from Lund University in Sweden inform you about a particular project which has Goba Environmental Youth Convention - which will also serve as the 14th CEI-conference - as it finale.

As in many other countries we in the Netherlands are currently also facing a continuation of the so called process of privatisation of the entire school system, including the so called educational support systems such as teacher training institutes, pedagogical centres and curriculum development agencies. Where it boils down to in the end, is that less and less money continues to become available for activities and projects that are not profitable when looked at from an economic point of view, on the part of the National Government -the Ministry for Education and Sciences in our case-. Therefore -and unfortunately- the SLO therefore has decided lately to re-examine from the point of view of costs and profits the conditions for its staff people's to make contributions to the genesis of the issues of Global Forum, beyond this one. It is fair to say that this will undoubtedly result into a higher 'price tag' per issue in the near future, at least if not the decision to stop the formal SLO-contribution at all. As editors however, we keep trying to establish a new financial basis which allows for the Global Forum to continue to appear in your letter boxes, also the appearance of this issue. There are no guarantees at this point, though and it would be very helpful therefore if a couple of bright ideas to solve this temporarily (?) problem could result from the teachers' deliberations at the conference in Costa Rica. With the help of David Lloyd in Israel we will continue to make the Global Forum available on the internet through the Cei-homepages, as long as it lasts.

In the meantime, we surely hope that you will fully enjoy this issue of our CEI-magazine.

Take Care

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BIODIVERSITY AS EDUCATIONAL RESOURCE

Ezra Pimentel,
Midreshet Sde-Boker
Israel

Outdoor interdisciplinary teaching is broadly accepted by Biology, Geography, and environment teachers around the world. But the traditional descriptive pattern of teaching in field trips and excursions was gradually changed, since the 70th, and moved towards more sophisticated and quantitative pattern of Ecosystem enquiry. This established a new concept of teaching the outdoor world, mainly in High Schools and Universities.

Although it's scientific attitude, this concept caused controversial response among teachers and antagonism among students who met it with some difficulties.

So, in the last decade a new approach appeared as a preferred mode for teaching environmental studies: Biodiversity.

This concept is a powerful, integrative framework, that emphasises the multiple and ecological realms in which it can be observed. Biodiversity refers to the variety and variability among organisms and the ecological complexes in which they occur. These items are organised at many levels, ranging from complete ecosystems to chemical structures that are the molecular basis of heredity. Thus, the term encompasses different ecosystems, species, genes and their relative abundance.



Rural tourism in Ireland at Cei 98

Biodiversity is the full range of variety and variability within and among living organisms, their associations, and habitat-oriented ecological complexes. The term encompasses ecosystem, species, and landscape as well as intraspecific (genetic) levels of diversity.

There is evidence that biotic diversity, at levels ranging from genetic diversity among populations to landscape diversity, is critical to the maintenance of natural and agricultural ecosystems. In addition to empirically based new ideas, the interfacing studies generated the concepts of "functional biodiversity", "organisms as ecosystem engineers" and "ecosystem predictability". Functional biodiversity addresses the variety of the relationships between living entities and ecological processes. Biodiversity completes the ecological mode of teaching. Ecosystems consists of plants, which initially assimilate energy, herbivores, carnivores, and decompose organisms, which consume and process this energy, releasing nutrients to support further carbon assimilation. Increasing the number of species from one of the four in tropic levels (plants,

herbivores, parasitoids, and decomposers) in experimental mesocosms reveals a positive correlation between diversity and productivity.

The focus on both entities and processes reflects the long-recognised dichotomy of structure and function in biology and ecology. Clearly, both structure and function must be integrated for complete answers to ecological questions. Biodiversity brings this clearly into focus. Indeed, the introduction of the concept of biodiversity has led to new questions that had not been raised within the research agendas of population, community, ecosystem and landscape ecology.

Biodiversity includes more than the species and ecosystem interface. We recognise at least two more interfaces: species and landscape, and ecosystem and landscape. We assume that the essence of biodiversity studies is in highlighting new interfacing questions, concepts, and theories. We believe that for species-ecosystem interfacing, adding new interface will contribute to our understanding of the relationship between biodiversity and ecological function. Dryland biodiversity studies can be a good start in this direction. Dryland systems, which are especially amenable experimentation, have manageable faunal and floristic diversities, and tractable physical structures. Interfacing with the landscape emphasises that the configuration of elements is a part of biodiversity studies.

There are ethical and aesthetic arguments for conserving biodiversity, regardless of its functional importance. In addition, biodiversity is critical to species interactions and to persistence of diversity in communities

However, the experiments and observations suggest that change in biodiversity can have significant impacts on ecosystem and landscape processes, both on a day-to-day basis and during extreme events. Ecosystem processes, in turn, determine services, such as clean water and air, that are required by society. Given the current rapid rates of environmental change, it seems wise to conserve the present level of diversity as insurance against an uncertain future. As our understanding of the functional consequences of biodiversity improves, it should be possible to pinpoint situations in which its conservation is particularly critical. The earth is currently in the midst of a major extinction event. The causes of earlier extinction events (e.g. the extinction of dinosaurs) are uncertain, but probably reflected by changes in the physical environment caused by such factors as meteor impacts or pulses of volcanism. By contrast, the current extinction event is biotically driven -specifically by human impact on land use, species invasions, and atmospheric and climatic change. However, the loss of species diversity is unique among major anthropogenic changes because it is irreversible. Thus, understanding the consequences of species loss is critical.

Understanding the relationships among organisms, their resource and the importance of landscape heterogeneity in maintaining species diversity and ecosystem function, is important for conservation and management. This is because humans are changing the components and their interactions by invoking agriculture, afforestation, physical and chemical alteration of habitats and introduction of exotic species.

Scientists are increasingly concerned about the global extent of the environmental impacts of human activities.

Environmental educators are committed to promote awareness, knowledge and skills for young leadership that will act for preservation, conservation and restoration for a sustainable global environment for generations to come.

ENVIRONMENTAL LAWS

by Mr Muhammad Majid Bashir
B.Com, M.A., D.L.L., D.I.P.L. (PUNJAB)
CIVIL JUDGE/JUDICIAL MAGISTRATE
FAISALABAD (Punjab) PAKISTAN

Environment is generally understood to include water, air, land and the internal relationship which exists between air, water, land and human beings, other living creatures, plants, micro-organism and property. The protection and improvement of the environment has become a major issue, at both the national and international levels, as it affects the well being of the people and economic development throughout the world.

Industrialisation, urbanisation, explosion of population over exploitation of resources, depletion of the traditional resources of energy and raw materials and the search for the new resources of energy and raw materials, the disruption of natural ecological balances, the destruction of multitude of animal and plant species for economic reasons, and some times no good reason at all, are factors which have contributed to environmental deterioration.

The natural resources present in the world are permanent assets to mankind, which should not be exhausted in one generation. Thus, preservation of the environment is a task which not only the governments are supposed to undertake, but is the responsibility of citizens of every country. Every one of us has to contribute towards environmental uplift and has to treat this as his social obligation. The increasing problem of pollution is a direct result of over population. We have limited resources, which can only satisfy limited wants.

Thus, if these resources are not expanded in the face of a growing population, the process of depletion of resources begins. This process is further explained by 'Tragedy of the Commons' according to which every person born in this world considers it to be his right to make use of the natural resources available in this world to the minimum. The tragedy of the commons reappears in the problem of pollution. Here the question is of not removing something from the commons but of adding something to it e.g. sewerage or chemical wastes are added into water and noxious and dangerous fumes into the air. The owner of the factory on the bank of a stream often considers it his natural right to use the stream water for his waste disposal. All pollution becomes denser, a need has arisen to redefine property rights. Further, the growing problem of over population and that of pollution has necessitated the imposition of checks and the enactment of laws on the subject.

Various governments have come up with legislation and enacted laws for controlling pollution, but, many of these provisions have just remained on paper, no adequate action has been taken pursuant thereto. The environmental problem, which may be regional or global in extent, not only requires extensive co-operation among nations, but also demands actions by the various governments and international organisations in the common interests. Due to difference in geographical conditions, political, economic and social structure every country has a different set of environmental standards which has to be enforced for the prosperity of that country. No single country of the world has the same needs, objectives or goals as that of another. That is why every country has been given a right to have its own 'cost-benefit analysis'. Clean air, as opposed to creating jobs for ten people, is less important in developing countries than in developed countries.

The castle of Chitral in the Northwest Frontier Province of Pakistan Feeding three million people is more important than saving three thousand people dying to the use of expired medicines. The issue is weather issues should take priority over the efforts of these poor countries to feed, educate and employ there people. Poverty is the greatest environmental problem in the developing countries. Thus the international organisations and the developed countries have to play a fatherly role in this regard as -ultimately- they also become target to what is known as the 'circle of poison'. For example some unregistered and banned pesticides, which are not allowed for domestic use in the U.S., are exported for foreign agricultural use where these pesticides are used in producing food products, which are ultimately imported by the U.S. Hence these pesticides make a complete circle i.e. 'circle of poison' and citizens of the U.S. are effected indirectly by the pesticides initially rejected by their government for domestic use.

During the course of time, the developed countries, having satisfied their basic needs of their people, have now turned toward the uplift of the environment. The Unites States for example, has taken up the issue very seriously; it has prepared legislation, which deals with every field of pollution. They have enacted laws to cater for air pollution, water pollution, hazardous water dumping etc. To administer and control air pollution U.S. Government has enacted the Clean Air Act, wherein it has laid down air quality standards and has set air emission limitations, the compliance of which is binding on all. Similar legislations have also been made to check environmental violations being made in other spheres of life. For example Toxic Substance Control Act. Federal Water Control Act, and Solid Water Disposal Act. Further, while enacting the pollution prevention Act of 1990, provisions have been made, to check pollution at the root level. Policies were made where by pollution should be prevented at the source, when never it is feasible, any waste, which cannot be prevented from resulting, should be recycled or treated in an environmentally safe manner. Hence, the disposal of other release into the environment should be as a last resort only. To insure that these laws and restrictions imposed there in are strictly followed, the concept of 'Strict Liability' has been introduced. In case of Hazardous Waste Laws, joint and several liability has been imposed on all then parties involved in the process i.e. The generators and transports of waste, and in addition to them, the prior as well then current owner of the premises where these wastes are dumped. In the absence of stringent laws and strict compliance thereof, one cannot expect any achievement in the field of environmental pollution control.

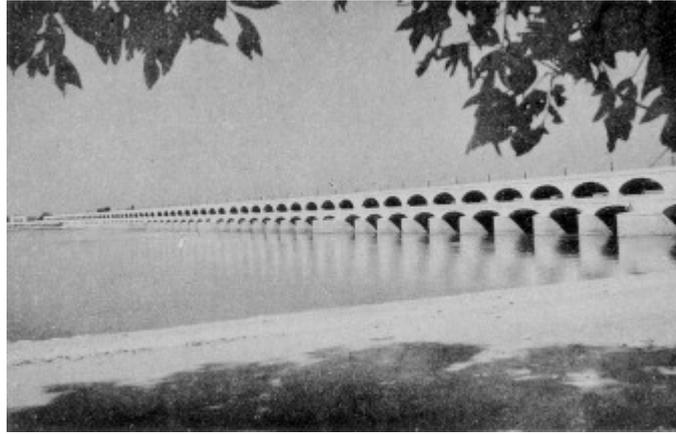
Laws are enacted to control and prevent that environment pollution can be framed both at the State and Provincial or Federal levels. People in favour of State Regulation justify regional standards because of regional variations, and further claim those regulation results in speedy action. On the other hand, regulation of pollution at the state level results in Hot-Spot problems. As a middle course, the state setups can be asked to implement and enforce a National policy on the subject.

To discourage people from making environmental violations, and for the purpose of imposing checks, certain 'Incentive Based' approaches can also be introduced. In the regulatory system, there is a problem of monitoring and enforcement. As an alternative, 'Emission Fees' or 'Exfluence Charges' can be set on each unit of pollution, which can provide incentives for reducing pollution levels. For example if a firm, industrial unit or a person has to pay a fine for each unit of pollution that is added to a system, the problem of system can be significantly controlled. Nevertheless, there is a problem of 'Valuing' i.e. assigning rupee or dollar value to social cost of pollution, and the non-linearity of environmental damages.

For making the process of implementation and enforcement of these laws more practical, the standards that have to be maintained can be categorised into two classes i.e. primary and secondary standards. Primary standards are the ones that protect public health; thus, the time limits set for their achievement should be as short as possible. Secondary standards protect public welfare from any known or anticipated adverse effect; these can be achieved in due course without any specification of time limits.

In addition to this, for creating respect for these laws in the minds of the people, some penalties have to be incorporated for those who do not take the restriction and dead lines seriously. These controls can be imposed in the form of damages or grant of injunctions by the court. Through the grant of damage, the people becoming target of environmental pollution get properly compensated, but if the damages are set at a very high level, this might discourage the people and result in shut down of the business. While awarding damages, you also indirectly give the license to pollute. These factors have to be taken into account while making decisions on about remedies or the relieves, which are to be granted to the people.

Unlike the Pakistan Constitution, wherein no specific Provision or Articles have been laid down relating to the environmental issues, the Indian Constitution caters for dealing with the problems of ecology. In Articles 48-A of the Indian constitution, the Directive principle enjoins that 'the state shall endeavour to protect and improve the environment and to safeguard the forest and wild life of the country'. Further Article 51-A(g) proclaims it to be the fundamental duty of every citizen of India' to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures. While giving effect to the Directive Principle and the fundamental duty, the Superior Judiciary of India has interfered with the policy decisions of the Government, with an aim to prevent all likelihood of prejudice to the public, and for the preservation of the ecology and environment. In the case of M.C. Metha Vs Union of India and others (A.I.R. 11988 S.C. 1037), the Indian Supreme Court passed an order for the 'closure of those tanneries which had failed to take minimum steps required for the primary treatment of industrial effluent. 'It was further laid down that 'just like an industry which cannot pay minimum wages to its workers cannot be allowed to exist, a tannery which cannot set-up a primary treatment plant cannot be permitted to continue to be permitted to continue to be in existence for the adverse effects in the public at large, which is likely to ensue by the discharging of the trade effluents from the tannery to the river Ganga would be immense and it will outweigh any inconvenience that may be caused to the management and the labor employed by it on account of its closure 'In the case of Rural Litigation and entitlement Kendera Vs. State of U.P. (A.I.R. 1988 S.C. 2187), the Supreme Court, for the purpose of environmental protection directed the stoppage of mining in Doon valley, which other otherwise was financially a very lucrative project. The subsequent judgements rendered by Indian Supreme Court, following the same trend, have in many cases given direction to the governmental machinery to take steps for the uplifting and preservation of the environment.



Flood control dam for irrigation in the Indus by Sukkur (Pakistan)

However, in the case of Pakistan, there is no direct constitutional mandate for protection for the environment. Realizing the importance of the prevention and control of pollution, an ordinance i.e. Pakistan Environmental Protection Ordinance 1983, (Ordinance XXXVII of 1983) was promulgated, with the object to provide a control on pollution, and for preservation of living environment. Under section 3 of the ordinance, Pakistan Environmental Council has been constituted, whose function has been constituted, whose function is to ensure the enforcement of this legislation to establish a comprehensive national environment policy, and to give directions to any governmental agency, body or person or to refrain from carrying out any practical activity prejudiced to the public interest or the environment. Every industrial unit, before its established or its expansion, has to get permit/license from the Pakistan Environmental Protection Agency, established under section 5 of the ordinance, for carrying on its business, after giving full details of the nature of its activities. Further, under section 8 of this ordinance, any industrial activity, which is likely to adversely affect of the environment, has to file a detailed environmental impact statement including information on (a) the impact on the environment of the proposed industrial activities, (b) the treatment works of the proposed project (c) the unavoidable adverse environmental effects of the proposed project and (d) the steps proposed to be taken by the project to minimise these adverse environmental effects. Under Section 12 of the Ordinance, certain penalties have also been prescribed for those who violate, intentionally or unintentionally, the mandate of this legislation. Since its inception, there has been only one change in the environmental law presently holding the field in Pakistan, where by the President of Pakistan, who under section 3 used to be the chairman of the Pakistan Environmental Protection Council, has been replaced by the Prime Minister. There is a well defined law for the control of pollution and preservation of environment, but unfortunately not much has been done in this regard by the environmental Protection Agency and the Council, for achieving the aims and objectives of this legislation. It was their duty and obligation to take such measures that could prevent hazards to life, destruction of the environment and pollution of the atmosphere, but these Authorities have failed in doing the same.

Apart from this specific legislation on the subject, there are provisions in the Pakistan Penal Code and The Code of Criminal Procedure, which caters for the control of public nuisance and of acts and omission which cause injury, danger or annoyance to public life. Under section 268, 269, 270, 278, etc. of the Pakistan Penal Code, various punishments have been prescribed for such offences. Further under section 133 and 144 of the Code of Criminal procedure, machinery and mechanism has been provided, where by the magistrates have been empowered to take

immediate steps for removing and preventing such nuisances and risks and dangers to human life, health and safety. Despite the availability of trained men and officers, vested with powers under the above provisions of law, no sincere efforts have been made by the governmental quarters to check nuisances, which are detrimental to human life and the surrounding atmosphere.

The non-compliance of the statutory obligations, cast upon the Environmental Protection Agency and their failure to achieve the required environmental quality standards, has led to judicial interference in the field. In the case of Ms. Shela Ziaand others Vs WAPDA (P.L.D. 1994 S.C. 693), the supreme court of Pakistan, while coming to the rescue of the general public of Pakistan has laid down that 'where life of citizen is degraded, the quality of life is adversely affected and health hazards are created affecting a large number of people, the Court in exercise of its jurisdiction under Article 184 (3) of the constitution, may grant relief to the extent of stopping the functioning of units which create, pollution and environmental degradation. Under our constitution, Article 14 provides that 'The dignity of man, and subject to law the privacy of home, shall be inviolable'. Article 9 of the constitution provides that 'no person shall be deprived of life or liberty save in accordance with law'. In this judicial pronouncement, it has been further held that 'life' covers all facets of human existence.



No frontiers or boundaries

The word 'life' has not been defined in the Constitution but it can not be restricted only to the vegetative or animal life or to mere existence of a being from conception to death. Life includes all such amenities and facilities which a person, born in a free country, is entitled to enjoy; legally and constitutionally. The word 'life' in the constitution has not been used in a limited manner. A wide meaning should be given to enable man not only to sustain life but also to enjoy it. While enlarging the scope of judicial interference, it has further been held that "under the common law a person, whose right of easement, property or health is adversely affected by any act of omission or commission of a third person in the neighbourhood or at a far-off place, he is entitled to seek an injunction and also claim damages, but the constitutional rights are higher than the legal rights conferred by law, be it municipal law or the common law. Such a danger as depicted, the possibility of which cannot be excluded, is bound to affect a large number of people who may suffer from it unknowingly because of lack of awareness, information and education and also because such sufferance is silent and fatal and most of the people who would be residing near an environmental hazard do not know that they are facing any risk or are likely to suffer by such risk. Therefore, Article 184 can be involved because a large number of citizens throughout the country cannot make such representation and may not like to make it due to ignorance, poverty and disability. Only some conscientious citizens aware of their rights and possibility of danger come forward.

Environment is an international problem having no frontiers or boundaries. Every nation will have to contribute in this regard. On, one hand, when both the developed and the developing countries are making sincere efforts to preserve the environmental and control the gradual depletion of natural resources, it is the duty of the international agencies and organisations, both in the environ-mental field and in the financial sector, to play their role. They can indirectly make their contri-bution by imposing restrictions and limitations, at the time of granting a loan to the devilling countries that a certain percentage of the loan should be spent on environmental preservation and uplift . Environment should not be treated as an 'externality' and should be ignored at the time of making an investment in a developing country, both by the country concerned and the Investor, as ultimately both will get affected by environmental degradation.



Another solution is 'debt for nature swaps' whereby some conservation organisations acquire the debts due by developing countries at a discount, which are then redeemed in local currency to be used for conservation purposes. Debt for nature swapping is designed with a two-fold purpose, to help reduce environmental problems and at the same time to help relieve the developing nations' debt burden. In this way, these international organisations can play a pivotal role in controlling an improving the environment.

It is possible to identify two different models, which are utilised in the enforcement process. First, the co-operative approach is characterised by the development of a continuing relationship between forcer and polluter. Thus, mutual respect and trust develop which can be utilised to ensure that there is compliance within a system. The confrontational approach involves the penalizing of activities. At its extreme, such an approach can result in the punishment of every breach.

Environment progress is the need of the day but in the quest of economic development one has adopt measures which prevents hazard to life, destruction of the environment and pollution of the atmos-phere. In times of today, almost every nation of the world has chomp with legislation relating to environment, but unfortunately, not much action has been taken in compliance, implementation and enforcement of these laws. In order to control the increasing deterioration of the environment, which we are witnessing today, we require extensive co-operation among nations and involvement of international organisations in the common interest of all to make this a success. In the achievement of these goals, all of us will have to play our part.

GLOBAL ENVIRONMENTAL YOUTH CONVENTION:

YEAR 2000 (1)

In summary

International Institute for Industrial Environmental Economics

Lund University

Sweden

Caretakers of the Environment/Sweden

Birgitta Norden: birgitta.norden@tunaskolan.lund.se

Malin Malm

In order to create an environmentally aware sustainable society for the future, today's young people around the world must be provided with the right knowledge and able to work together in an global network.

Therefore, the International Institute for Industrial Environmental Economics and Caretakers of the Environment/Sweden have recently initiated one of their largest projects to date: the Global Environmental Youth Convention in the Year 2000. It is a world-wide, year-long environmental project with a convention in Lund in June 2000 as its highpoint.

Youth in the ages 14 to 17 years, together with a teacher from approximately 100 countries, will be selected to participate in the convention. A group of 2 to 4 students together with their teacher from the same community in each land will participate. Prior to the convention, all delegates will be offered some instruction, a Minor Master, during two terms in order to get a foundation in environmental studies. The education will for the most part take place via Internet, together with E-mail.

In every country, a mentor is needed. We hope that you will be one of them. The mentor's task is to find in his or her country the appropriate delegates, i.e. teachers and students who are interested and motivated in environmental issues. He or she will also keep contact with mass media, such as local press, as well as see to it that the youths will come to the convention in Lund in June 2000. The Advisory Board of the project has decided that regarding the students the following criteria should be met:

- Language ability: all delegates should have a basic competency in English.
- Environmental interest: all delegates should have demonstrated concern for environmental issues, including having done an environmental project. Students must show some complexity in their environmental thinking.
- Leadership capacity: all delegates should exhibit the potential to conduct future homeland projects on preventive environmental strategies.
- All delegates should be well-rooted in their cultures and demonstrate deep concern for their national agenda for development.
- Delegates must have access to, and basic knowledge of, a computer.
- Gender: the total of delegates should reflect equal representation of males and females.
- Teachers should be innovative; perhaps it is necessary to select them prior to the students.

If you yourself do not have the possibility to act as a mentor, we hope that you can suggest someone else in your area who would be perfect for this task. The appointed delegates are not supposed to pay their trips to Sweden by themselves. Each delegate will receive a 'Letter or recommendation' from LIONS International, ROTARY International and International Inner Wheel. With this letter the delegate has to go to the local LIONS, ROTARY or Inner Wheel club and apply for his or her travel costs.

The main goal of this project is to initiate a world-wide network for youth, a Global Intelligence network, and through it spread out know-ledge on preventive environmental strategies, both locally and globally.

The project is carried out in co-operation with UNEP and EU Environmental Agencies, among others. A number of partners with an international profile will be connected to the project. The Swedish Government and Royal Family will be invited to participate, as well as other important

persons, such as UN Secretary General Kofi Annan. The Project Chairman is Ambassador Anders Wijkman, formerly Assistant Secretary General of the UN.

We sincerely hope that you are interested in joining the project and in leading the participants in your homeland. The project will be directed from the International Institute for Industrial Environmental Economics in Lund. We will make sure that you receive all the material and support you need. From each country one teacher - will be invited for the Convention in June 2000. Already delegations from 75 countries are registered.

We will be in touch with you again shortly with more information.

COSTA RICA - THE GOOD EXAMPLE!

A Resume by Hjalmar Norden

A 15-years old student at Lerbackskolan in Lund, and also a participant in the youth reference group of "Global Environmental Youth Convention" June 2000, in Sweden.

E-mail to Hjalmar Norden: fall_palle@home.se

Tropical forest Protection and Ecological Restoration in Costa Rica



Country map of Costa Rica

Once, Costa Rica was almost covered with tropical forests. But between 1963 and 1983, politically powerful ranching families cleared much of the forests to graze cattle, for beef exporting to Western Europe and United States, where there was a demand for it. In 1983 only 17% of the original forest remained, and there was considerable soil erosion. Although the great loss of rainforest there still was around 500'000 species of animals and plants.

A single park in Costa Rica contains more bird species than the whole of North America!

Around 1970, Costa Rica established a system of national parks and conservation reserves which by 1993 included 12% of its area (6% of it in reserves for indigenous people). These reserves are

now being merged with newly acquired land (at an estimated cost of \$1 billion), and 27% of the land area will be preserved. This is more than any other country in the world.

The goal is to set up a large, working ecosystem for future generations, and carefully selected parts of the land should be used for regulated forms of sustainable farming, hunting and logging. They may also become profitable centres for regulated ecotourism, education and research. Studying of the evaluating native species as sources of new drugs and pest controls as well as to learn from their methods are also key goals.

Since 1963, a large project is in execution to reach out to the pupils and the younger, new generations through 44 U.S. and Costa Rican universities and make them appreciate the great biodiversity of the country. This project was a beginning to the above project, but it also led to the establishment in 1989 of the National Biodiversity Institute (INBio), a private non-profit organisation set up to survey and catalogue the country's biodiversity.

In 1991, Merck & Co. paid INBio \$1 million to locate and collect specimens of tropical organisms and possible sources of drugs. If Merck develops a marketable product from this chemical prospecting, the company will retain all patent rights but will pay INBio an undisclosed royalty around 1-3%. There has been some arguing whether or not the money should go to the indigenous people who learned us about the medicines. Without their knowledge and land the new medicine would never have come to pass.

Today the conservation has paid off. Tourism (almost two-thirds of it from ecotourists) is the country's largest source of outside income. Still, roughly 400 km² of rainforests gets cut down every year (four times the rate of loss in Brazil), as a result of the growth of the population and legal or illegal deforestation.

Still, if the attempts to protect biodiversity were a success, it would be a good sample for the entire world!

One restoration project takes place in the lowlands of Guanacaste National Park, which is a small tropical seasonal forest relinking to the rainforest on adjacent mountain slopes.

Daniel Janzen, professor of biology at the University of Pennsylvania and a leader in the growing field of rehabilitation and restoration of degraded ecosystems, has helped galvanise international support and has raised more than \$10 million for one of the world's largest and most innovative ecological restoration project. His vision is to turn the nearly 40,000 habitants near the park into an essential part of the restoration. They will aid by actively participating in the project and harvest enormous educational, economic and environmental benefits. Local farmers have been hired to sow large areas with tree seeds and to plant seedlings that started to grow in Janzen's lab. International visits from scientists are also a part of the project and students study the forests and goes on field trips to the park.

Janzen believes that the children of today will run the park in the future, and that education, awareness and involvement-not guards and fences-are the best ways to protect ecosystems from unsustainable use.

Look forward to experience the Biodiversity and hope to see you in Costa Rica in June 1999!

P.S. If you want references or sources to the written resume, just send a mail!

GLOBAL ENVIRONMENTAL YOUTH CONVENTION: YEAR 2000 (2)

International Institute for Industrial Environmental Economics
Lund University
Sweden
Caretakers of the Environment/Sweden
Birgitta Norden: birgitta.norden@tunaskolan.lund.se
Malin Malm

Preventing rather than curing

There is only one earth. Even so we are not looking after it as we should. We exploit faster than we replenish. We use rather than reuse. The greatest challenge facing mankind, today and in the future, is how to look after the earth's resources and create an ecologically sustainable society. So that the next generation will really be the next generation. The only option is preventive environmental strategies. But we have to start today. We have to find the best ways. We have to work together. Across borders. Then it will not be too late.

By thinking in terms of prevention, we can solve environmental problems before they arise. They have to be tackled at source. This means, for example, that when a new product is to be made, the design, materials, manufacturing methods and transport are chosen that have the least impact on the environment. It is important that we look at the whole lifecycle of a product and minimise the environmental effects throughout the whole chain. The first step is a change of attitude.

The International Institute for Industrial Environmental Economics at Lund University conducts research and teaching in preventive environmental strategies. Our educational and research programs focus on pollution prevention by using cleaner technologies.

Our vision is that the Institute will be part of a global network within which everybody works together with environmental questions - across national and cultural boundaries. With the Global Environmental Youth Convention project and together with the Caretakers of the Environment International/Sweden, we are taking another step in realising our vision.

GEYC The Global Environmental Youth Convention Year 2000 is a worldwide environmental project run by the International Institute for Industrial Environmental Economics at Lund University, together with Caretakers of the Environment International in Sweden. H.M. King Carl XVI Gustaf of Sweden is the project's patron. Other organizations involved are UNEP, the European Environmental Agency, the US Environmental Protection Agency, LF/WASA, LIONS International, Rotary International, International Inner Wheel, GEFT, CSE, LEAD, City of Tomorrow - European Housing Exhibition 2001, the International Hospital Federation, Lund's Diocese together with its youth organisation and the Municipality of Lund. This type of project is unique. 400 young people and 100 teachers are part of the project. There are on average five participants from each country and their ages range from 14 to 17. The participants will be distance trained in preventive environmental strategies and will then take part in a five-day convention in Lund in June 2000.



The Institute's former students together with selected teachers from throughout the world help choose the delegates. They will also function as a support group in the future. The selection process demands that each of the delegates has a basic knowledge of English, a serious interest in the environment, good roots in his or her own culture and knowledge of and access to a computer. This will ensure that the delegates are motivated during the course.

The overriding aim of the Global Environmental Youth Convention Year 2000 project is to create a worldwide network of young people. Through this they will be able to share and spread their knowledge of preventive environmental strategies both locally and globally. They will be able to do this up to the time of the convention. But after the five days in Lund, the network will really start to expand.

Internet with e-mail is a significant tool in distance teaching. It is therefore vital that delegates have access to a computer and Internet, at school for example.

Traditional teaching material in the form of printed matter will also be used where necessary.

The International Institute for Industrial Environmental Economics at Lund University has a highly efficient and greatly appreciated masters program, which specializes in preventive environmental strategies. This program has now been adapted for youngsters between 14 and 17 years old - and is therefore called Young Masters.

The Institute's courses are aimed at people working in the public authorities and industry. They are also open to people active in other organizations and newly qualified graduates. Applicants should have a Bachelor's degree or equivalent. Every year 40 graduates from a variety of countries are admitted. The program is multidisciplinary and contains sections on technology, economics, business administration, jurisprudence and subjects that focus on environmental problems and their solutions.

Young Masters is divided into three parts. The introductory phase will provide participants with basic knowledge of the environment and create the foundation for future learning about environmental strategies. They will learn about biodiversity, gaining an understanding of the complexity of ecosystems and their natural balance. Participants will also learn about threats to the environment, and begin looking at their world from the perspective of sustainable development. By learning about Agenda 21, participants will join the international efforts in improving the environment and building a better future. As a result, they will be able to take a stand on environmental issues.

The second part is aimed at preventive environmental strategies. Here participants find out how all aspects of society are linked together, such as taking a product's total lifecycle into consideration in order to tackle environmental problems. They learn to go to the source and try to prevent pollution occurring from the start.

In the third part participants carry out various projects. The idea is that the participants shall use their understanding of preventive environmental strategies to identify and study problems, for example, in local industry. The project work will then be presented at the convention in Lund.

To ensure that participants enjoy the course and are motivated to learn the information provided, it is important that the academic level is balanced to provide both benefit and enjoyment. The pedagogic level should make the course attractive. The course developers therefore have special knowledge and solid experience specifically for the projects and are involved in devising the teaching material.



An image of Lund

Five-day convention Discuss preventive environmental strategies, give an account of project work and meet young people from other cultures. These will be just a few of the main activities when some four hundred students and around a hundred teachers from all over the world get together in Lund in the middle of June 2000 for a five-day convention.

The Lund convention is one of the high-points of Global Environmental Youth Convention Year 2000. All participants will be coming together with their teachers.

During their time in Lund, the participants will give an account of their group work and listen to speakers from various areas within preventive environmental strategies. They will also take part in group work and workshops. Furthermore, the participants will have the opportunity to visit places of interest in and around Lund.

An important aim of the convention is for participants to get to know one another, swap experiences and make new contacts.

Welcome to Lund

Lund is in Sweden, a country with some nine million inhabitants in northern Europe. With its thousand-year history, Lund is one of Sweden's oldest towns. In 990 Lund was founded and the city became the religious, political and commercial center for the whole of Scandinavia. Since

then Lund has always been a meeting place where people from all over the world gather to discuss their affairs.

During the 12th century, Lund was the largest town in Scandinavia. Today nearly 100,000 people live in Lund and it is one of Sweden's main university towns. There are many attractions in Lund for those who are interested in culture. Among them is a large number of museums, the most well known being Kulturen, a cultural-historical museum in the middle of the city and one of the country's largest and finest open air museums. Here you will find buildings from the 17th century and onwards. Kulturen also has many fine collections of antiquities and visiting exhibitions. Lund is also well known for the Museum of Sketches and the University's Archeological Museum.

Lund University is the largest in Scandinavia and was founded in 1666. Today there are 30,000 students, including many from abroad. It has established and maintains close links with its counterpart in Copenhagen, Denmark. Sweden's first and Scandinavia's largest research park - IDEON - is in Lund. Here you will find a number of innovative inter-national companies. The main building of the International Institute for Industrial Environmental Economics is on Tegn?rplatsen, one of Lundag?rd's leafy, open squares. The area around Lundag?rd has been a focal point in the city during its entire history.

Partners

Caretakers of the Environment International, CEI, believes by encouraging students to meet and work together and organizing annual international conferences, publishing a periodical for teachers and students by teachers and students, establishing national branches and organizing national and regional workshops, CEI is creating a worldwide network of secondary school teachers and students who are actively concerned about environmental issues and who are willing to do something about these issues through their education and their actions. The network aims to heighten awareness of the fact that many countries share a variety of environmental problems and that solutions are best achieved by international co-operation based on a shared sense of responsibility. CEI encourages the building of trust, friendship and cooperation among peoples of different cultural backgrounds and the development of links between environmental educators and other governmental, environmental and commercial organizations. The CEI's goals are to face environmental challenges, share successful and innovative environmental education programs and facilitate joint educational projects that encourage international data exchange and interdisciplinary activities. The Swedish national branch was established in 1994 and is named "Caretakers of the Environment International/Sweden" (CEI/SE).

CEI considers the Global Environmental Youth Convention as a very special conference which can revitalise the organisation as it enters the new millennium.

UNEP (United Nations Environment Program): The mission of UNEP is to provide leadership and encourage partnerships in caring for the environment by inspiring, informing and enabling people and nations to improve their quality of life without compromising that of future generations.

European Environmental Agency: Through the provision of timely, targeted, relevant and reliable information to policy making agents and the public, the EEA aims to help achieve significant and measurable improvement in Europe's environment.

U.S. Environmental Protection Agency: The mission of the U.S. Environmental Protection Agency is to protect human health and to safeguard the natural environment - air, water, and land - upon which life depends.

LF/WASA Fonder: The Developing Countries Fund is a non-profit fund. 2 per cent of the Fund's capital is distributed annually to the participating development agencies Caritas, Erikshj?lpen, Salvation Army, IM Individuell M?nniskohj?lp, L?karmissionen, Rotary's doctors bank, Swedish Lions, the UN's Save the Children Fund Unicef and the IIIIEE.

LIONS International: The world's largest single aid organization. Its members work together over borders irrespective of social status or religion.

GETF: The mission of the Global Environment and Technology Foundation is to foster innovation by combining the environment, technology and enterprise to encourage sustainable practices throughout the world.

International Inner Wheel: A worldwide organization with the same ideals and principles as Rotary International. The objects of Inner Wheel are Friendship and Service.

Rotary International: The aim of ROTARY is to encourage and foster the ideal of service as a basis for respectable enterprise and, in particular, to promote and foster the advancement of international understanding, goodwill, and peace through a world fellowship of business and professional people united in the ideal of service.

CSE: The Center for Science and Environment is a public interest organization for research into and promotion of environmentally sound and equitable development strategies.

LEAD: LEAD's mission is to create and sustain a global network of leaders who are committed to promoting change towards patterns of economic development that are environmentally sustainable and socially equitable.

The International Hospital Federation: The International Hospital Federation, IHF, is an association supported by members from some 100 countries. Its activities include education, international events, publications and information in the health care field. The federation is officially recognized by the World Health Organization as a significant non-governmental organization in the health care field. IHF puts forward its views on hospital and primary health care issues on a regular basis so that they receive non-government input.

Lunds Kommun: The Municipality of Lund.

Lunds Stift: The Diocese of Lund, founded in 1060 as the second bishopric in Scania, which was then part of Denmark. Now part of the Church of Sweden.

City of Tomorrow - European Housing Exhibition 2001: "Sustainable urban development in the information society" - a new sustainable 1000 apartments city district and a major housing exhibition in Malm?, Sweden, May 11 to September 9.

There is only one earth!
Save it now!

We shall give the world to our children
like a big apple
so that they may learn the meaning of fellowship.
And they shall plant eternal trees.

Nazim Hikmet

Environmental Briefs

Three ways to help:

1. Take Action Now
2. Join Co-op America, now only \$15 online! Get resources you can use to become "woodwise."
3. Support Co-op America's work Your contribution counts to save our forests!

For more information contact:

Wood Wise consumer Initiative

Co-op America

1612 K Street NW

Washington DC 20006

800-56-GREEMN <http://www.woodwise.org>

GLOBAL LEARNING AND OBSERVATIONS TO BENEFIT THE ENVIRONMENT (GLOBE)

Student Research Around the World

Global Learning and Observations to Benefit the Environment (GLOBE) is a world-wide network of students, teachers, and scientists working together to study and understand the global environment. Students and teachers from over 6,500 schools in more than 80 countries are working with research scientists to learn more about our planet.

GLOBE students make environmental observations at or near their schools and report their data through the Internet. Scientists use GLOBE data in their research and provide feedback to the students to enrich their science education. Global images based on GLOBE student data are displayed on the World Wide Web, enabling students and other visitors to visualise the student environmental observations.

You are invited to join GLOBE:

For more information contact: <http://www.globe.gov/fsl/welcome.html>

THE SELBORNE PROJECT

The Selborne Project is a major education program of the Roger Tory Peterson Institute. The project connects children to a place in the real world, far beyond the counterfeit world of TV and video games. It enables teachers to structure a learning environment that takes advantage of their students' innate curiosity about nature and helps those students understand their role in it.

The Selborne Project trains and supports middle school teachers who wish to adopt a holistic, hands-on method of teaching and learning, methods advocated by state education departments throughout the country.

Teachers who take part in the project plan a six to eight-week interdisciplinary unit that uses one square kilometer of area surrounding the school building as an organizing theme. Students learn required concepts in science, mathematics, language arts, and social studies in the context of a variety of investigations within the square kilometer. Students produce maps, field guides to natural history, and research papers that describe their community from ecological and social perspectives.

As a result of their participation, students gain an unprecedented understanding of their community as a whole. First, students learn directly about the ecosystems and the diversity of life inhabiting "their" square kilometer. Second, students come to value their "home town," and to appreciate the cooperation and shared responsibility that are necessary to sustain it. There are other outcomes, as well. Because the project is so much fun, students increase their interest in learning in general; and the teamwork engendered by the project carries over to benefit the learning process all year long.

What the Selborne Project offers participants:

In-service Teacher Preparation. A ten-day summer professional workshop which develops skills in nature observation and interdisciplinary team planning. Travel expenses including transportation, food, and lodging for the duration of the summer workshop.

Stipends for teachers for time spent in training and creating interdisciplinary units.

Classroom Materials. An implementation manual, an extensive library of field guides, and some equipment for sampling the environment. **Communications.** Newsletters and a yearbook that will allow participating teams to share their outcomes. Teams may opt to communicate electronically. **Consultation Services.** RTPI staff visit and assist during the implementation and evaluation phases. **Curriculum Leadership Institute.** Travel costs and stipends will also be provided for teams to review and revise curriculum plans for the second year of implementation, and to enhance leadership skills.

For more information about how your school can become part of the Selborne Project, please contact:

Mark K. Baldwin, Director of Education Programs
Roger Tory Peterson Institute
311 Curtis Street, Jamestown, New York USA 14701-9620
E-mail mark@rtpi.org
Phone: 716 665-2473 ~ Fax: 716 665-3794

VISONS FOR THE FUTURE YOUTH CONFERENCE ENGLAND

13th - 16th September 1999

Caroline Chipperfield
Visons for the Future/BAYS Officer
British Association
23 Savile Row
London W1X 2NB
Tel.: 0171 973 3071
Fax.: 0171 973 3051

'Visons for the Future' is a series of youth conferences for 16-18 year old students. It is organised by the youth section of the British Association for the advancement of Science (BAYS). It is an exciting programme giving young people a voice in influencing how our lives will change over the next twenty years.

The British Association is holding their Annual Festival of Science between the 13th - 17th September 1999 in Sheffield. This festival involves science lectures, hands-on activities and aims to promote the role of science in our everyday lives.

There will be a special 'Visons for the Future' event at the festival this year. Smithkline Beecham has provide financial support to allow BAYS to select European students to attend the youth conference (there will also be time for students to attend the festival) free of charge, with all reasonable expenses paid for the students and their teacher.

The topic of the conference is Visions for the Future of Health there will be a packed programme for the students involving a trip to laboratories, lectures, discussion groups and entertainment. At the end of the conference students will present back (in English) to an invited audience of VIPs and the media their views on the future of health.

The students will be:

- Groups of six students per school with one teacher accompanying. An even number of girls or boys (e.g. 6 girls or 6 boys or 4 girls and 2 boys or 4 boys and 2 girls)
- Able to travel to the UK on/for 13th September 1999 and stay until the 16th September 1999
- Studying a science subject at school.

Places are limited and schools will be selected on the report sent back by the closing date. Students are required to carryt out a survey/study of the healthcare provision in their country and show thier results in a 500 word report (with graphs and pictures).

Closing date:

PLEASE REGISTER INTEREST TODAY!!!!!!

Reports can be faxed to: (+44) 171 973 3051
E-mailed to: caroline.chipperfield@britassoc.org.uk

Or sent to: Caroline Chipperfield, BAYS Office, 23 Savile Row, London, W1X 2NB, England.

If your applications is successful we will then contact you with more details . Good luck!

WORLD YOUTH LEADERSHIP JAM!

Nevada City, CA
July 10-17

Connecting and Supporting 30 of the World's Outstanding Young Leaders and Activists

The World Youth Leadership JAM! will be a gathering of thirty of the world's leading young social, political and environmental activists for 7 days of incredible community building, cutting edge skills sharing and celebration! The JAM!'s central purpose is to bring together powerful young people who are responding to the pain of our times, and to expand the effectiveness of a global community of youth activists.

The JAM! is uniquely designed to empower and assist youth who are in positions of influence and leadership in groups throughout the world working for social justice and environmental sanity. The beautiful 230-acre campus of John Woolman School, surrounded by the breathtaking Tahoe National forest and a short distance from the renowned Yuba river, will be the perfect setting for this incredible event.

Special Guest Presenters Will include Raffi, David Brower, Harry Wu, Daniel Stern (subject to change), and John Robbins.

Cost: \$500-\$1,000 (extra scholarships available)
Age Range: 16-30

Requirements The World Youth Leadership JAM! is open by application only. We're looking for a diverse array of participants who are actively working to create positive change. Please contact YES! To receive more information, or to apply.

GREEN SCHOOL PROGRAM GUIDE

The Center has created step-by-step guidelines describing four programs for greening your school. They can be used individually or altogether as a more comprehensive program.

In the Peer Partners in Environmental Education, high school and middle school students are trained to teach environmental education in partners elementary schools. Older students become role models. An excellent introductory video is also available.

Price: guidelines by CEE: \$ 10,-
Video by CEE: \$ 9,-

The Student/School Greening Partnership sets up an environmental audit of the school. Teams of students study their school and begin the greening process on-site, focusing on areas such as energy use and conservation, waste management and source reduction, food choices, supplies, maintenance and water conservation.

The School Organic Garden Program utilizes the garden as an extension of the classroom.
Price: \$ 4,-

In the Student/Business Greening Partnership high school students team up with local businesses to research and address energy issues, recycling and green purchasing as well as to learn about environmental issues together.

Information about the above:
CEE Bookstore, 40 Avon st.,
Keen, NH 03431
USA

SEEDS ACROSS AMERICA

A teacher in Washington state initiated a seed exchange as a way to connect her school with others across the country. Participants in her Teaching Garden program received:

- ten packets of seeds from a school in another region
- descriptions of the other school's climate
- forms to help you describe your local climate
- potential curriculum connections
- a list of other classrooms that are participating
- a label to send your school's seed box to another school

The goals was to inspire connections with other classrooms and serve as a forum for teachers to share ideas on school gardens.

Begin a seed exchange in your school!

For more information contact:
Dana Fredrick-Hayden, A Teaching Garden
25967 NW Circle Drive South
Paulsbo, WA 98370, USA
garden@scnet.com